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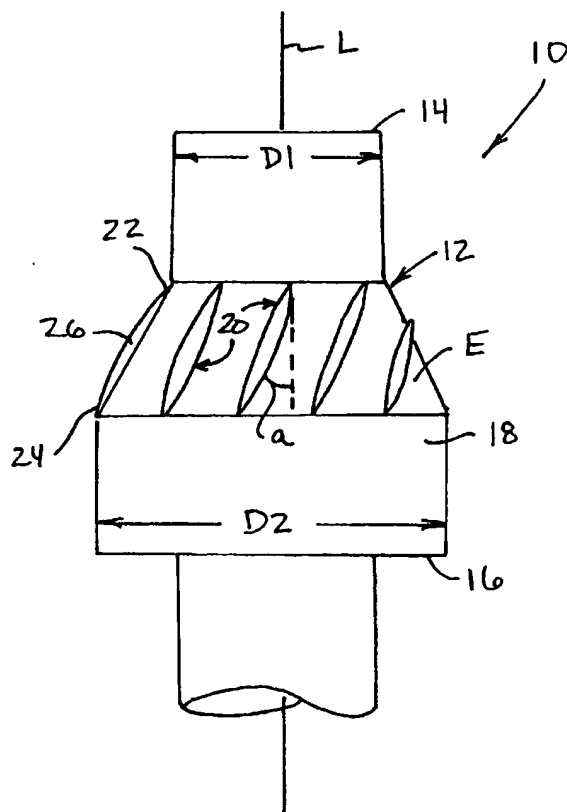
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**(54) Title: ROTATING MANDREL FOR EXPANDABLE TUBULAR CASING**



**(57) Abstract:** An expansion mandrel (10) for expanding tubular casing includes a tapered expansion portion having expansion segments (20) which are angularly disposed on an external surface of the mandrel (10). The segments (20) reduce friction and cause the mandrel (10) to rotate in response to the mandrel (10) being moved through the casing during expansion of the casing.

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/25715

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : E21B 23/00 US CL : 166/207,384 According to International Patent Classification (IPC) or to both national classification and IPC																										
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 166/207,384,206,380 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)																										
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 6,325,148 A (Trahan et al.) 4 December 2001 (04.12.2001), Fig. 9 and col. 6, lines 10-35.</td> <td>1-3, 6, 9, 13-15, 17, 20</td> </tr> <tr> <td>X,P</td> <td>US 6,457,532 A (Simpson) 1 October 2002 (01.10.2002), Figs. 20, 22 24, and col. 12, line 27- col. 14, line 9.</td> <td>1-7, 13-17, 19</td> </tr> <tr> <td>Y,P</td> <td></td> <td>8, 10-12, 18, 21-22</td> </tr> <tr> <td>X</td> <td>US 1,597,212 A (Spengler) 24 August 1926, (24.08.1926), Entire document, particularly Figure 1.</td> <td>1-5, 13-16</td> </tr> <tr> <td>Y</td> <td></td> <td>8, 18</td> </tr> <tr> <td>Y,P</td> <td>US Patent Application Publication 2003/0075338 (Sivley), 24 April 2003 (24.04.2003), Fig. 10 and paragraph 0118 on pages 9-10.</td> <td>10-12, 21, 22</td> </tr> <tr> <td>X</td> <td>US 3,039,530 A (Condra) 19 June 1962 (19.06.1962), Fig. 1, col. 1, lines 7-12.</td> <td>1-3, 6, 9</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 6,325,148 A (Trahan et al.) 4 December 2001 (04.12.2001), Fig. 9 and col. 6, lines 10-35.	1-3, 6, 9, 13-15, 17, 20	X,P	US 6,457,532 A (Simpson) 1 October 2002 (01.10.2002), Figs. 20, 22 24, and col. 12, line 27- col. 14, line 9.	1-7, 13-17, 19	Y,P		8, 10-12, 18, 21-22	X	US 1,597,212 A (Spengler) 24 August 1926, (24.08.1926), Entire document, particularly Figure 1.	1-5, 13-16	Y		8, 18	Y,P	US Patent Application Publication 2003/0075338 (Sivley), 24 April 2003 (24.04.2003), Fig. 10 and paragraph 0118 on pages 9-10.	10-12, 21, 22	X	US 3,039,530 A (Condra) 19 June 1962 (19.06.1962), Fig. 1, col. 1, lines 7-12.	1-3, 6, 9
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Authorized officer David J. Baggett Telephone No. 703-308-1113																								